

ABSTRACT

5 A system and method for increasing rendering efficiency in  
pipelined graphics systems. In the disclosed embodiments, reads of pixel  
information during the rendering of a primitive are suspend if the pixel  
10 information has not been updated by a previous primitive. In some  
embodiments, reads of pixel information are also suspended periodically  
when a table tracking the information becomes full. In some embodi-  
ments a Read Monitor Unit 108 controlled by the graphics system's  
Memory Controller 106 is used to track pixels which have been affected  
15 by rendered primitives. In some embodiments, a history list is used to  
avoid suspension of reads for antialiased lines. In a particular embodi-  
ment, the table used to track affected pixels is two-bits, the first bit  
tracking whether the pixel has been touched by a primitive since the last  
SuspendReads command was invoked and the second bit tracking whether  
20 the pixel has been touched by the current primitive. Both bits are reset  
when a power on or SuspendReads command occurs. The second bit is  
also reset at the start of rendering for each primitive. In a separate  
embodiment, a unique number is assigned to each primitive to be  
rendered. The number is recorded for each active pixel touched by the  
primitive. If an earlier primitive has touched this pixel, suspension of  
reads can be invoked and the table reset (i.e., every entry is marked  
invalid).